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(54) **FLEXIBLE STORAGE BAG**

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B65D 33/00	(2006.01)
B65D 33/14	(2006.01)
B65D 33/25	(2006.01)

(52) **U.S. Cl.**

CPC ***B65D 31/12*** (2013.01); ***B65D 33/007*** (2013.01); ***B65D 33/14*** (2013.01); ***B65D 33/2566*** (2013.01); ***B65D 33/2591*** (2013.01); *B65D 2203/00* (2013.01)

(58) **Field of Classification Search**

USPC 383/64, 61.3, 97, 63, 65, 42, 5, 105, 38, 383/106, 40, 39; 206/810

See application file for complete search history.

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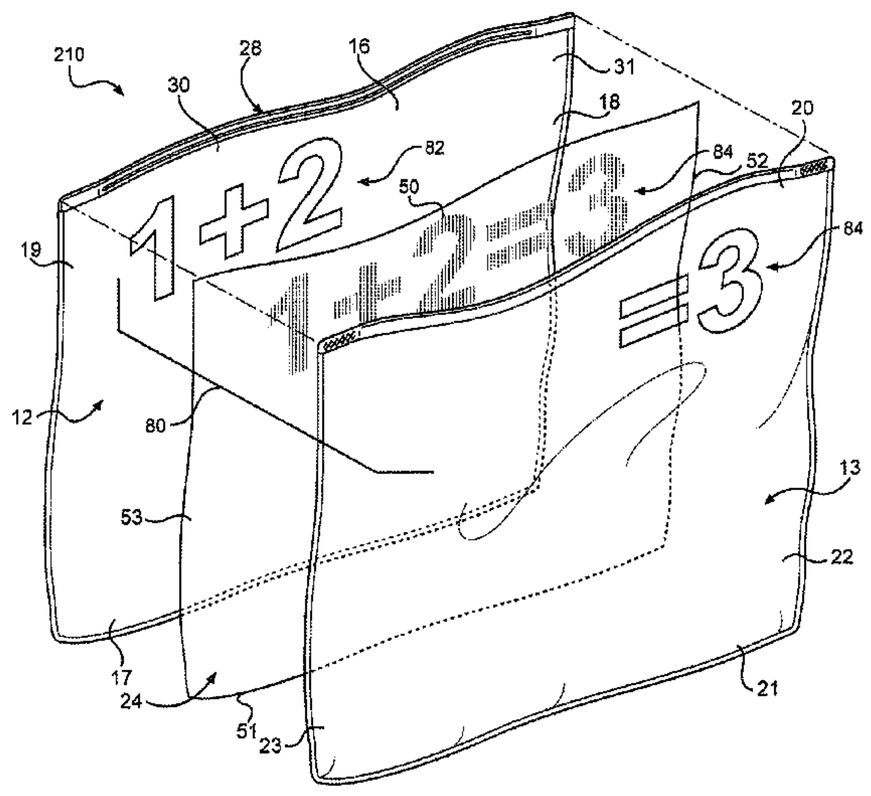
(57) **ABSTRACT**

A flexible storage bag defines an inner storage area within which is provided a flexible barrier. A user can select a first storage mode wherein the flexible barrier is positioned to one side such that only a single storage zone is available for storing products; or a dual storage mode wherein the barrier divides the storage area into first and second storage zones. The bag preferably includes an upper closure assembly having a loop extending therefrom to aid a user in sealing the bag, as well as potentially hanging the bag from a hook. The bag optionally includes a lower closure assembly on the flexible barrier for selectively sealing one of the multiple storage zones. Offset tabs may be provided to aid a user in opening the bag. In some embodiments, the bag includes a graphical image puzzle constituting multiple graphic images that combine to form a completed image.

5 Claims, 7 Drawing Sheets



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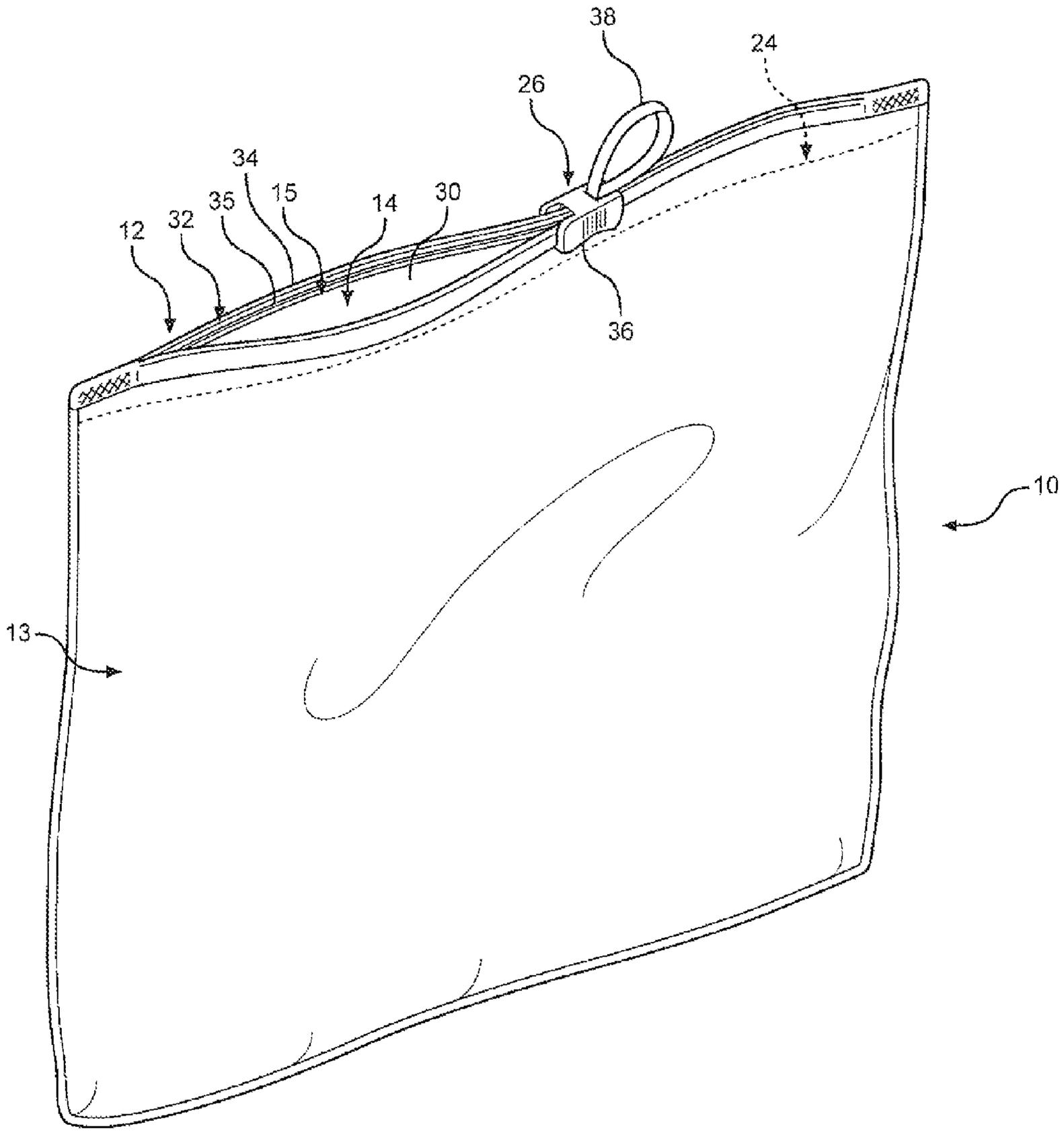

FIG. 1

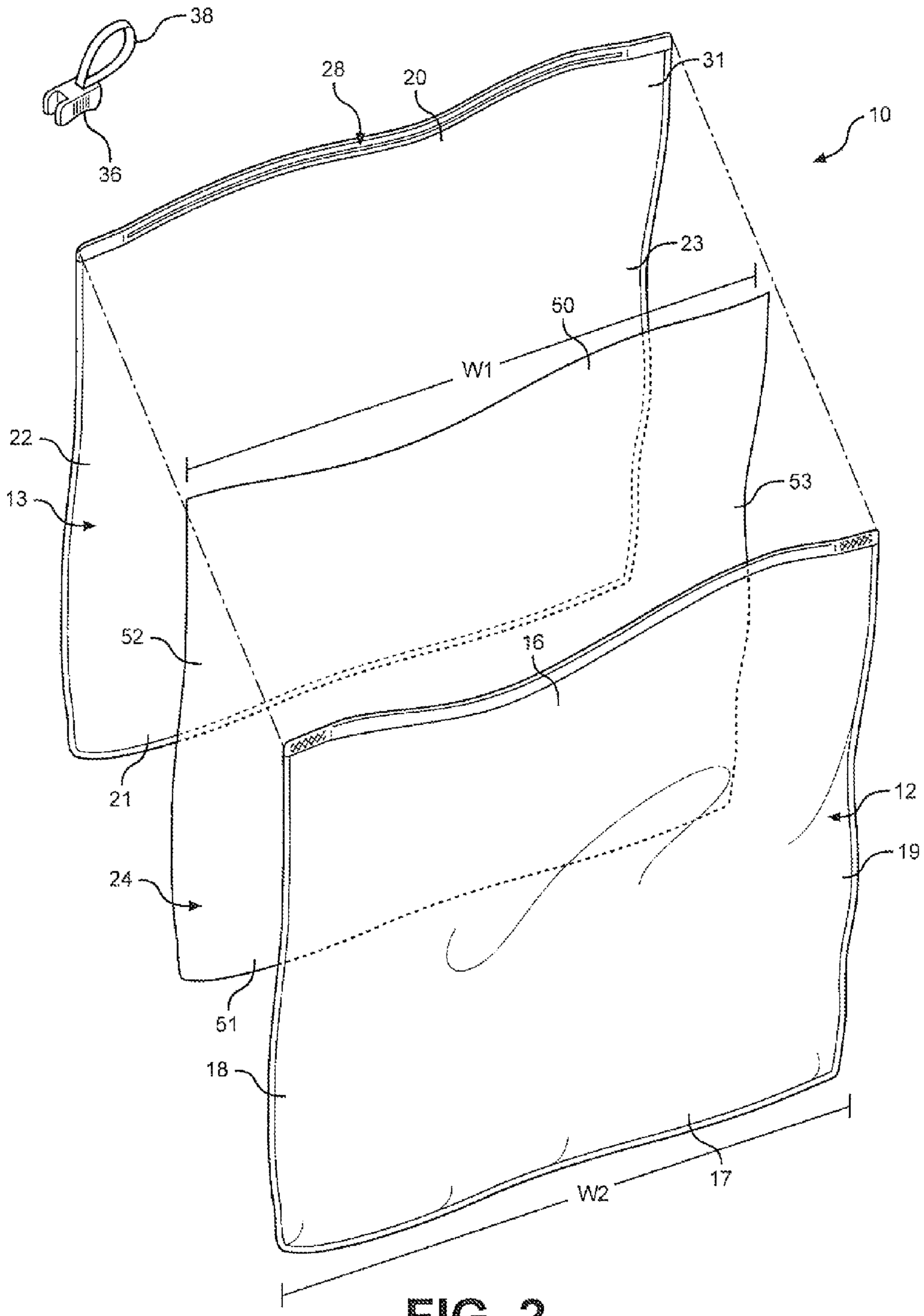

FIG. 2

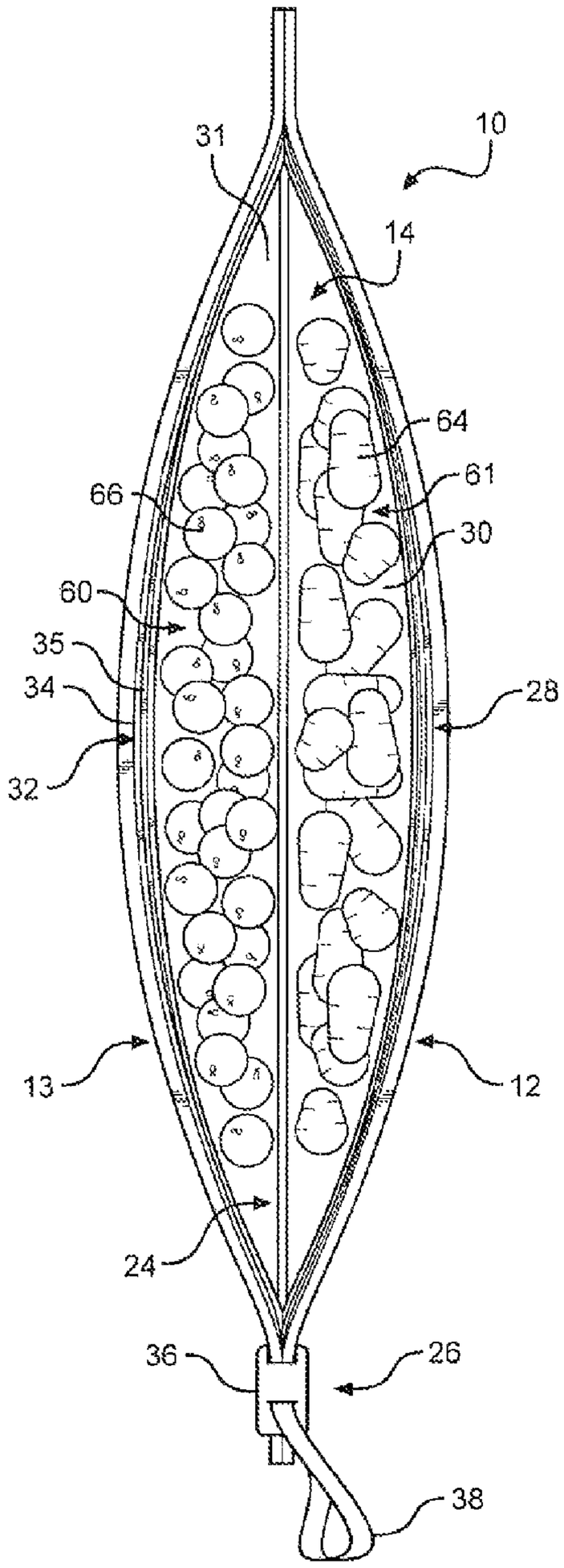
31
10
14
64
66
61
30
60
35
34
28
32
13
12
24
36
26
38

FIG. 3A

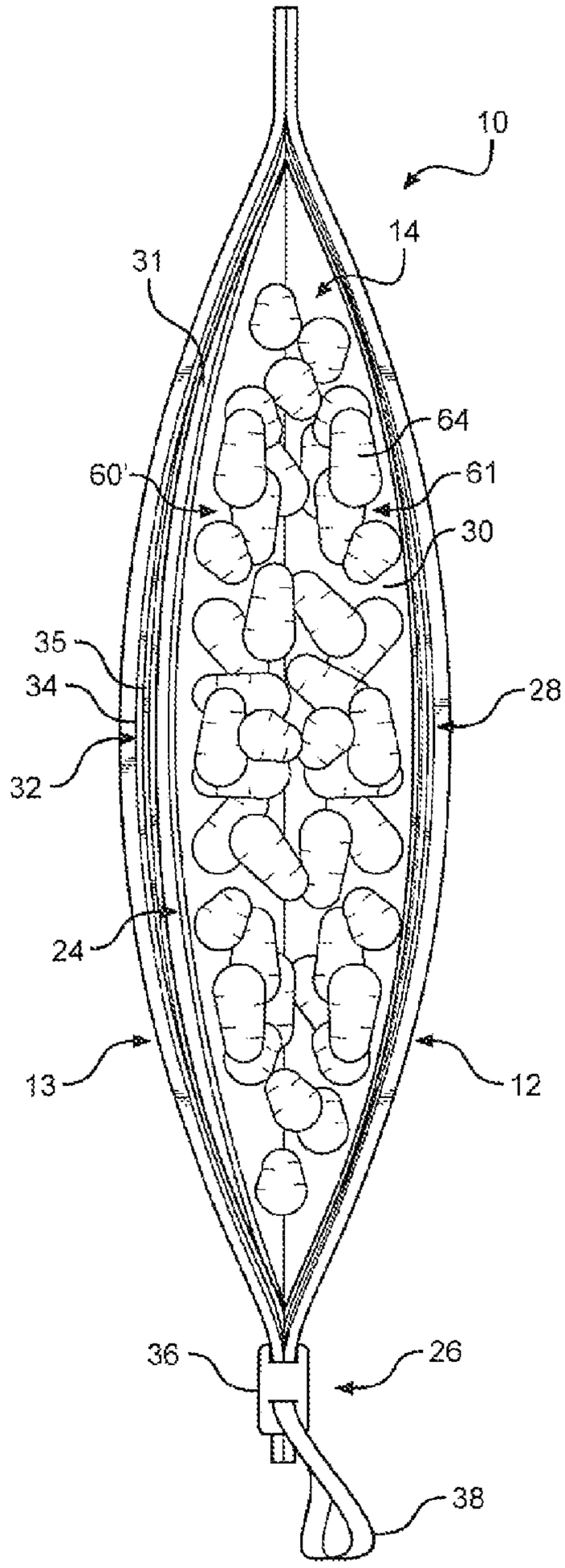
10
31
14
64
60'
61
30
35
34
28
32
24
13
12
36
26
38

FIG. 3B

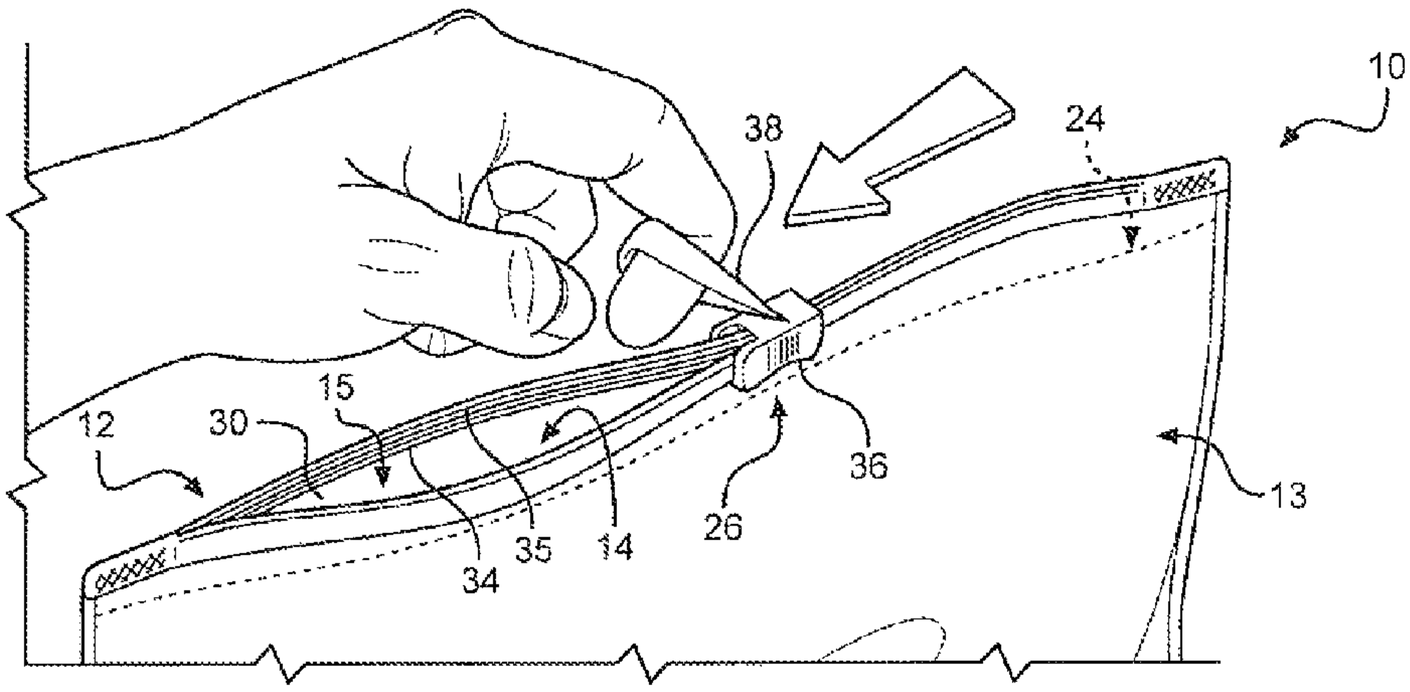

FIG. 4A

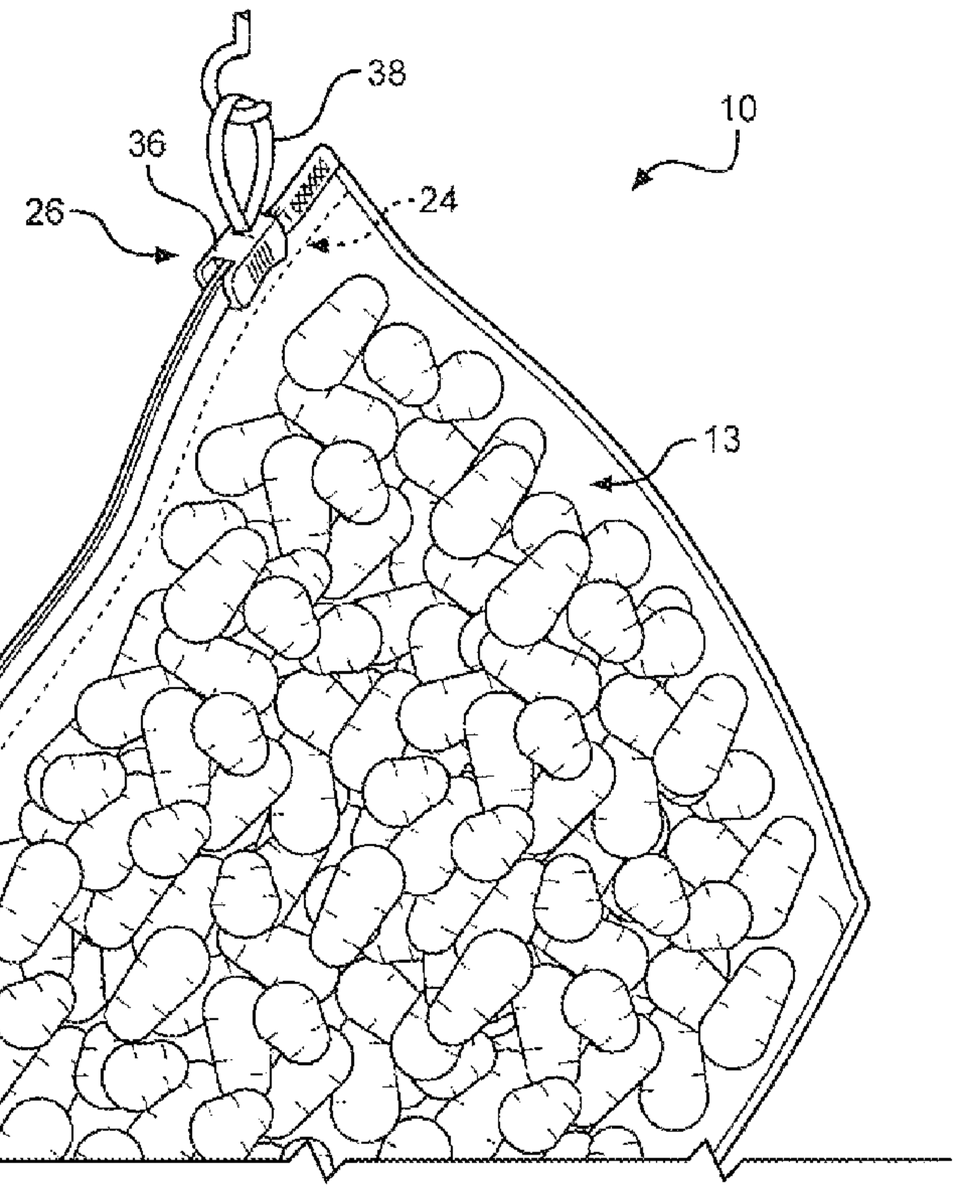

FIG. 4B

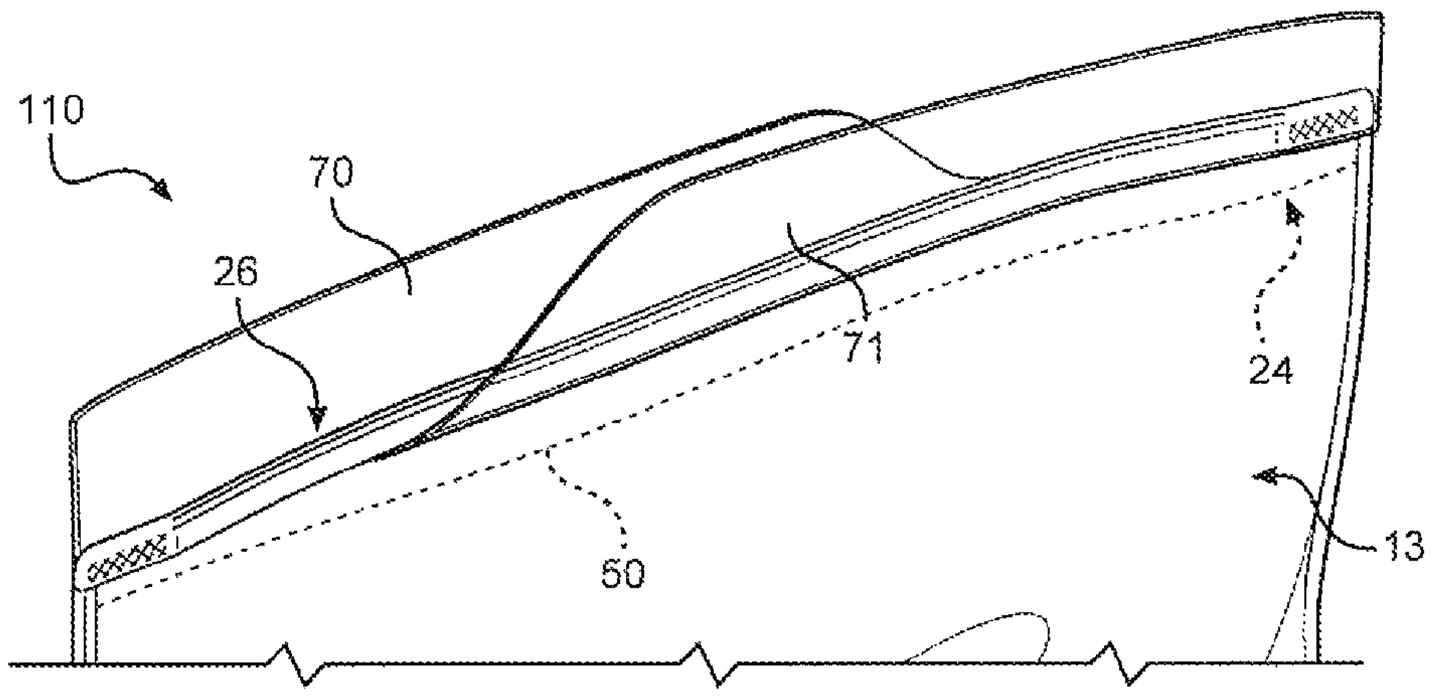

FIG. 5A

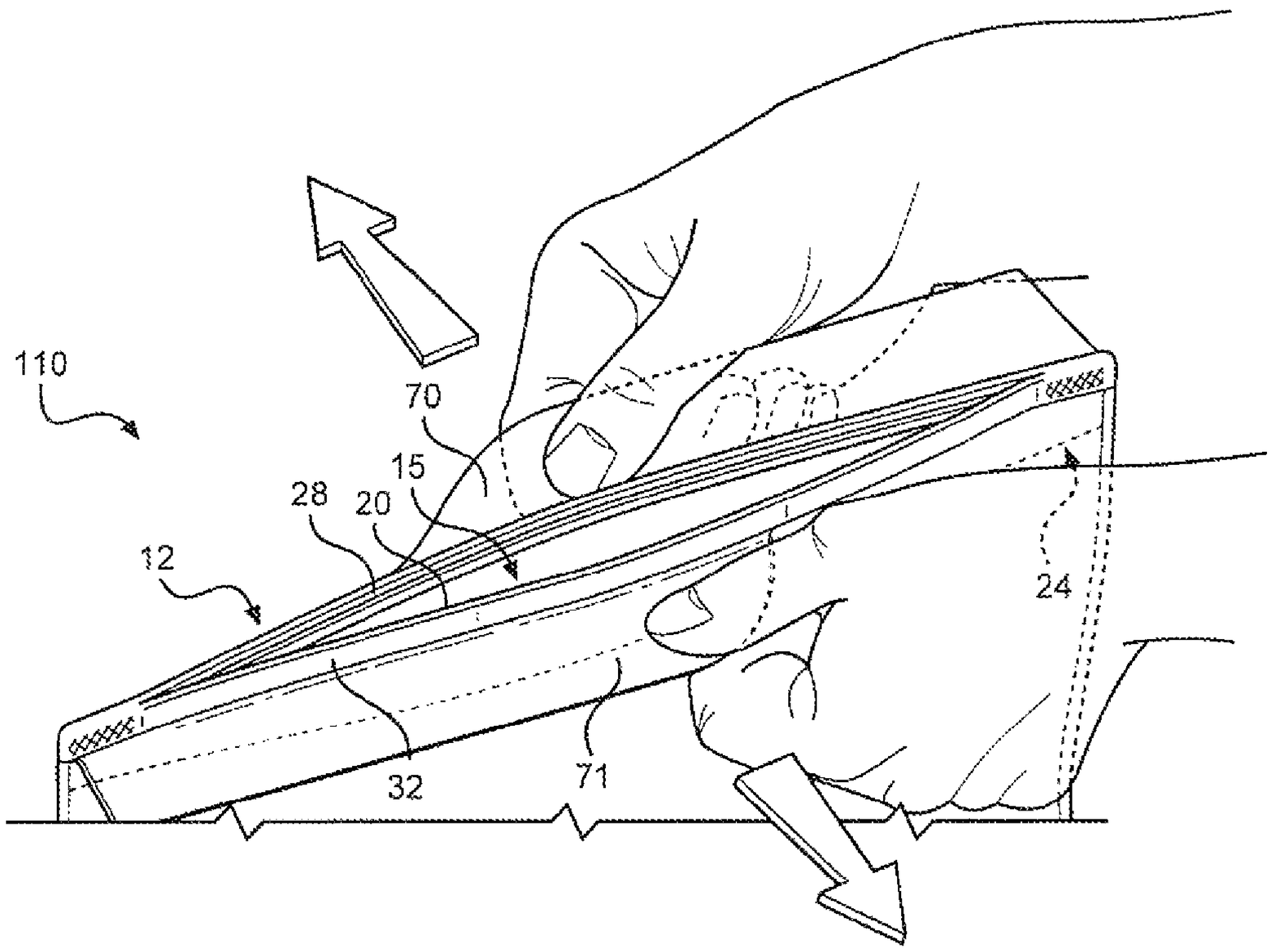

FIG. 5B

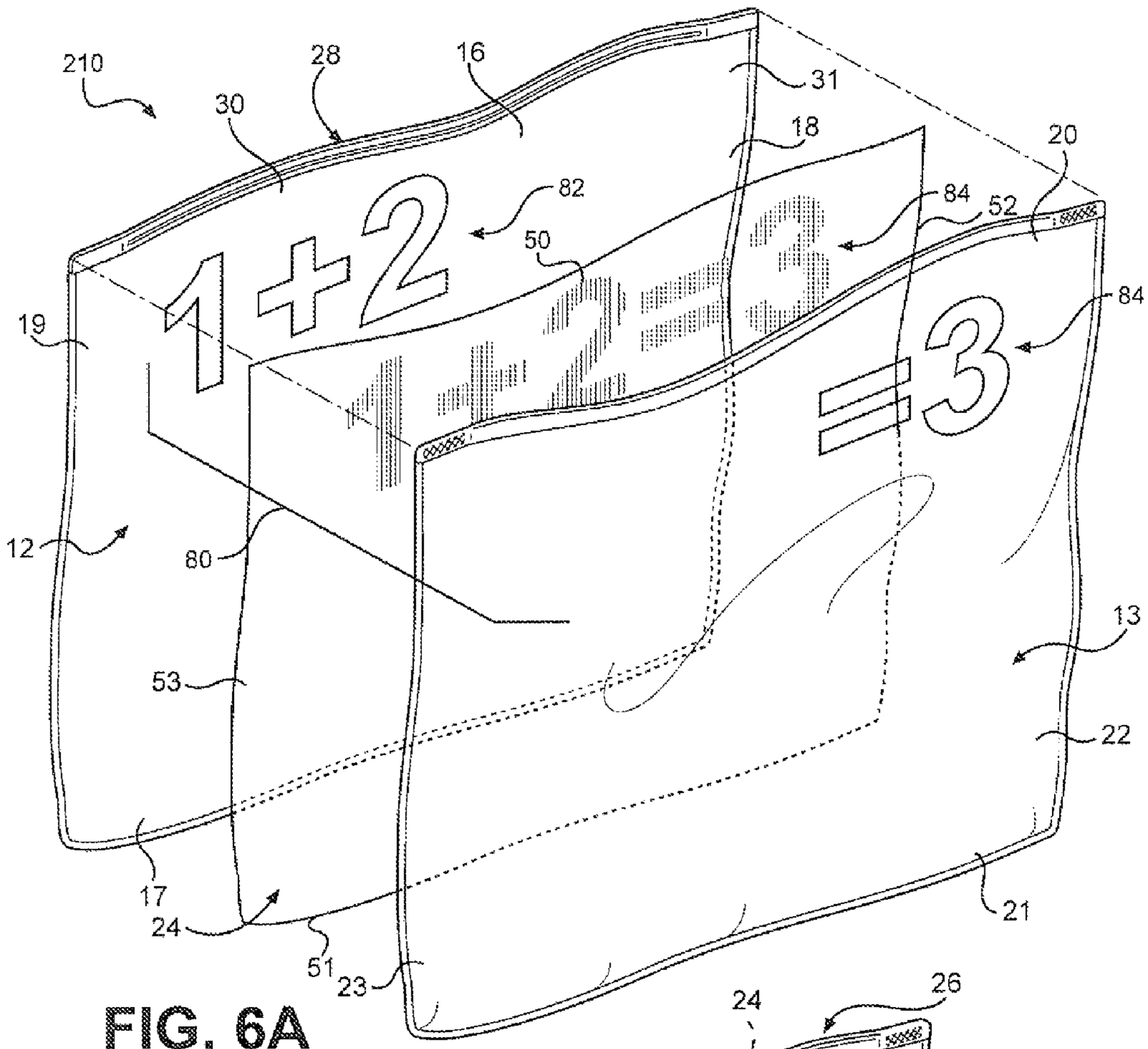
210
30
28
16
31
18
20
82
84
52
50
19
84
12
80
13
53
22
17
24
21
51
23

FIG. 6A

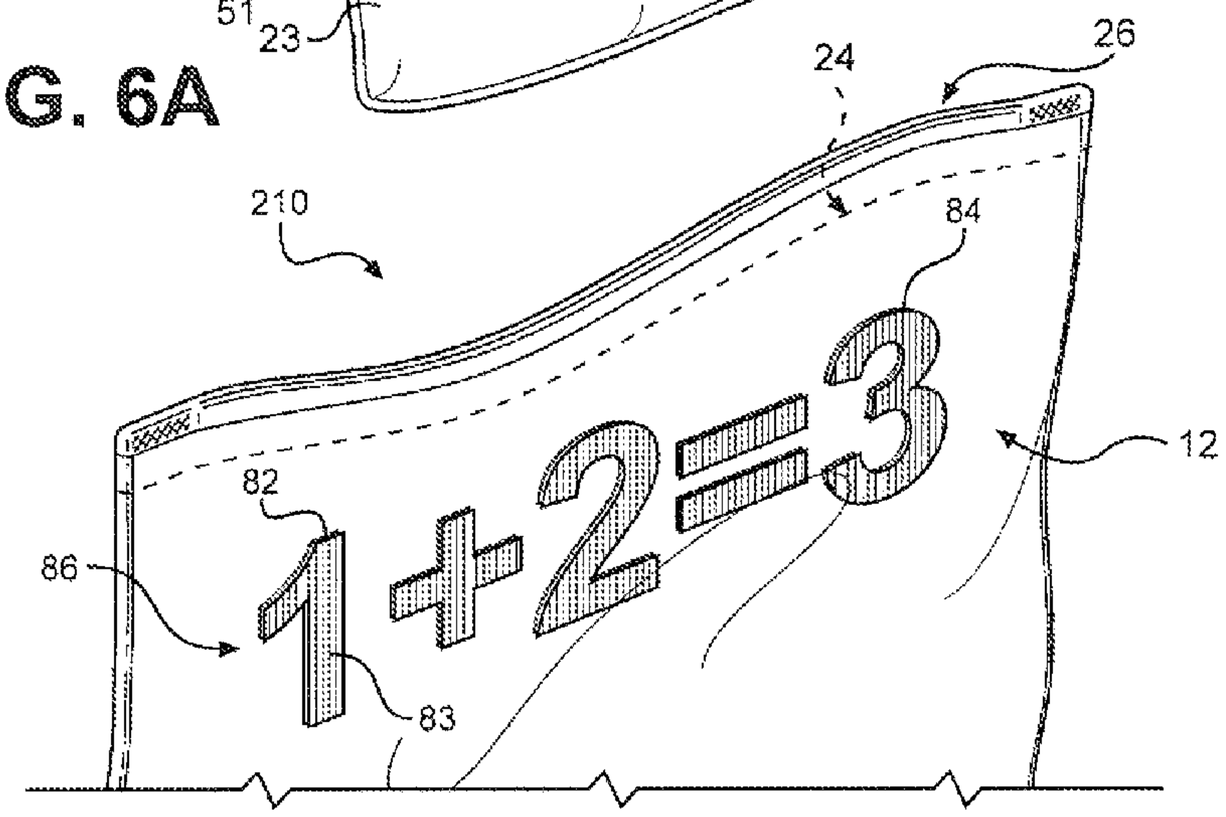
24
26
210
84
12
82
86
83

FIG. 6B

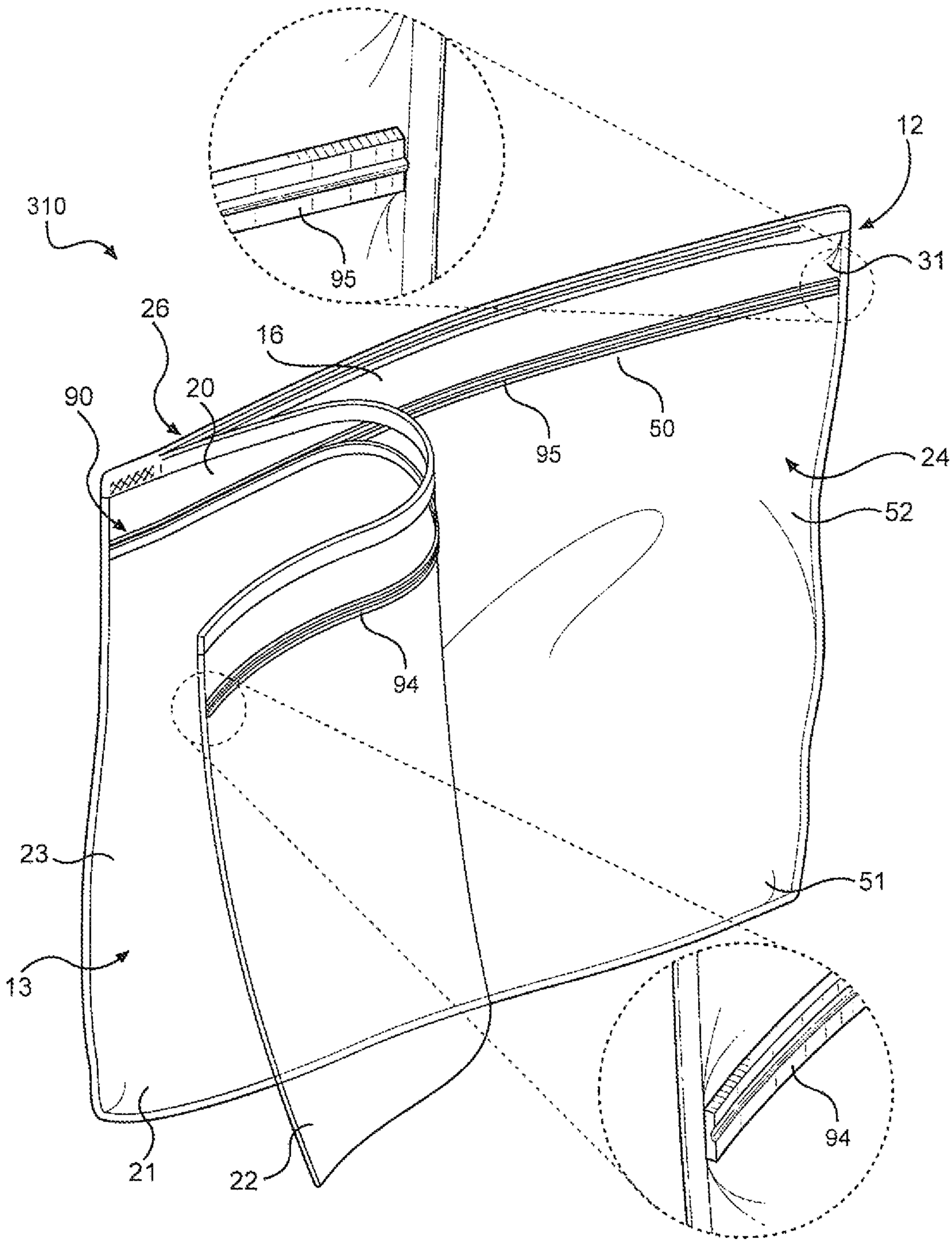

FIG. 7

FLEXIBLE STORAGE BAG

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Patent Application Ser. No. 61/419,103, filed Dec. 2, 2010.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention pertains to the art of flexible, plastic, resealable storage bags and, more particularly, to a storage bag including an internal barrier.

2. Discussion of the Prior Art

Dual compartment sandwich bags including separate, sealable side-by-side compartments are known in the art as demonstrated by U.S. Design Pat. No. D563,241. Further, plastic storage bags which seal with the aid of a zipper are known as demonstrated by U.S. Patent Application Publication No. 2004/0066984. Regardless of these known bag arrangements, there still exists room for improvement within the storage bag arts. For example, there still exists the need for a simple plastic storage bag which is easy to use and provides for separating moist or wet components from dry components without the need for large, unnecessary packaging.

SUMMARY OF THE INVENTION

The present invention is directed to a flexible storage bag including an inner flexible barrier. More specifically, the flexible storage bag starts with interconnected first and second side wall portions that define an inner storage area having an opening. The flexible barrier is located within the inner storage area and preferably extends substantially the entire width of the inner storage area. The flexible barrier is connected to at least one of the respective bottom and opposing side edge sections of each of the first and second side wall portions such that the flexible barrier is retained within the inner storage area.

With this configuration, a user can select a first storage mode wherein the flexible barrier is positioned to one side of the storage area such that only a single storage section is available for storing products, or a second storage mode wherein the flexible barrier is positioned to divide the storage area into distinct first and second storage sections for separately storing one or more products. In this way, moist or wet food products such as vegetables or dip can be kept separate from dry products such as bread or chips.

An upper closure assembly is provided for selectively closing the opening of the flexible storage bag, and preferably includes a zipper having a loop extending therefrom to aid a user in zipping or unzipping the flexible storage bag and for hanging the flexible storage bag from a hook or the like. A top edge portion of the flexible barrier is provided within the flexible storage bag below a level of top side edge sections of each of the first and second side wall portions such that the flexible barrier member does not interfere with the function of the upper closure assembly. The flexible storage bag may also include a lower closure assembly for sealing the flexible barrier to one or both of the side wall portions. The flexible storage bag may also include other features such as offset tabs to aid in opening the bag and a graphical image puzzle for a user's entertainment and/or education.

Additional objects, features and advantages of the present invention will become more readily apparent from the following detailed description of preferred embodiments when taken in conjunction with the drawings wherein like reference numerals refer to corresponding parts in the several views.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** perspective view of a flexible storage bag constructed in accordance with the present invention;

FIG. **2** is an exploded view of the flexible storage bag of FIG. **1**;

FIG. **3**A is a top view of the flexible storage bag of FIG. **1**, wherein both storage sections of the bag are utilized;

FIG. **3**B is a top view of the flexible storage bag of FIG. **1**, wherein only one storage section of the bag is utilized;

FIG. **4**A shows the flexible storage bag of FIG. **1** being opened by a child;

FIG. **4**B shows the flexible storage bag of FIG. **1** hung from a hook in a storage position;

FIG. **5**A shows a flexible storage bag of the present invention including offset tabs for opening the storage bag;

FIG. **5**B shows the flexible storage bag of FIG. **5**A opened;

FIG. **6***a* is an exploded view of a flexible storage bag of the present invention including a graphical image puzzle constituted by separate graphical images;

FIG. **6***b* is a front view of the flexible storage bag of FIG. **6***b*, showing a completed graphical image; and

FIG. **7** is a perspective view of the flexible storage bag with one side wall shown partially torn back to better illustrate internal structure.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

With initial reference to FIG. **1**, a flexible storage bag **10** includes first and second side wall portions **12** and **13** connected to form an inner storage area **14** having an opening **15**. In one embodiment as shown in FIG. **2**, first side wall portion **12** includes top, bottom and opposing side edge sections **16-19**, while second side wall portion **13** includes top, bottom and opposing side edge sections **20-23**. First and second side wall portions **12** and **13** are preferably made of a suitable plastic film material and are fused or otherwise interconnected at their respective bottom and opposing side edge sections **17-19** and **20-23** in a manner known in the art. Alternatively, first and second wall portions **12** and **13** may be constituted by a single folded sheet of flexible plastic material which is fused along side edge sections **18-19** and **21-23** in a manner also known in the art. At this point it is noted that materials suitable for use in the manufacture of plastic storage bags, as well as methods of forming plastic storage bags with a single storage compartment, are well known in the art and need not be detailed herein. Instead, the present invention is directed to a novel flexible storage bag **10** including an inner flexible barrier **24**, as will be more specifically discussed below.

Flexible storage bag **10** further includes an upper closure assembly generally indicated at **26**. As best shown in FIGS. **2** and **3**A-**3**B, upper closure assembly **26** includes a male connection element **28** extending along an inner wall **30** of the first wall portion **12**, and a female connection element **32** extending along an inner wall **31** of the second wall portion **13**. In a manner known in the art, female connection element **32** includes first and second ridges indicated at **34** defining a channel **35** into which male connection element **28** is received to seal the top edge sections **16** and **20** of the first and second side wall portions **12** and **13** together, thereby sealing inner storage area **14**. In a preferred embodiment, upper closure assembly **26** also include a zipper **36** slidably connected to the

top edge sections **16** and **20** of the first and second side wall portions **12** and **13** and adapted to forcibly engage the male and female connection elements **28** and **32** to selectively zip or seal flexible storage bag **10** when slid in one direction and to unzip or unseal flexible storage bag **10** when slid in an opposing direction. As the manner in which a zipper element can cooperate with male and female connection elements to zip or unzip a storage bag is known in the art, it will not be detailed further herein. However, in accordance with an aspect of the present invention, zipper **36** preferably includes a loop **38** sized to allow the finger of a user, even a small child, to be inserted into the loop (see FIG. **4**A) in order to pull zipper **36** to aid the user in zipping and unzipping flexible storage bag **10**. Loop **38** can be integrally formed with zipper **36**, or can be attached to zipper **36** via a hinge, or another connection arrangement such as tying a string or strap thereto. Additionally, loop **38** can advantageously function as a means for hanging flexible storage bag **10** from a peg, nail or the like (see FIG. **4**B).

As best seen in FIG. **2**, inner flexible barrier **24** includes top, bottom and opposing side edge portions **50-53**. In a first embodiment, at least one of the bottom and opposing side edge portions **51-53** is connected to the corresponding bottom and opposing side edge sections **17-19** and **21-23** of side wall portions **12** and **13**. For example, in one embodiment, bottom edge portion **51** is sealed to bottom edge sections **17** and **19** of respective first and second wall portions **12** and **13** to retain flexible barrier **24** within storage area **14**, while maintaining top edge section **51** at a level below the level of upper closure assembly **26** so as to not interfere with the sealing of flexible storage bag **10**. Flexible barrier **24** may have a width W_1 that is smaller than the width W_2 of side wall portions **12** and **13** such that opposing side edge portions **52** and **53** of flexible barrier **24** are not sealed to the flexible storage bag **10** during the manufacturing process, or width W_1 may be slightly larger than width W_2 to allow flexible barrier **24** to more easily be re-arranged within storage area **14**. The flexible barrier **24** of this configuration can be advantageously used to selectively divide storage area **14** into first and second storage sections **60** and **61**, as depicted in FIG. **3**A, or may be flipped or pushed to one side of the flexible storage bag **10** such that flexible barrier **24** is pressed against the interior wall **30** or **31** of one of the first and second wall portions **12** and **13** to provide a single storage area **60'** as depicted in FIG. **3**B. That is, FIG. **3**B depicts storage bag **10** being utilized as a single compartment bag for snacks **64**, wherein the flexible barrier **24** is pushed to the side of the storage bag **10** before filling with snacks **64** such that only a single storage area **60'** is utilized.

In a more preferred embodiment, each of the bottom and side edge portions **51-53** are sealed to the corresponding bottom and side edge sections **17-19** and **21-23** of respective first and second wall portions **12** and **13**. Again, top edge portion **50** is preferably sized such that it is just below the male and female elements **28** and **34** of the upper closure assembly **26** so as not to interfere with the sealing of flexible storage bag **10**, but provides a substantial barrier between first and second storage sections or zones **60** and **61**. This embodiment, while not providing a total seal between the top of first and second storage zones **60** and **61**, defines first and second storage zones **60** and **61** as separate containers. Thus, the first and second storage zones **60** and **61** can be advantageously utilized to separate moist or wet objects such as tomatoes, dip or blueberries indicated at **66** in FIG. **3**A, from relatively dry objects such as snacks **64**.

Advantageously, the present invention allows for a standard size storage bag to be utilized in a single storage mode wherein a single storage zone **60** is defined, or in a dual storage mode wherein contents within the storage area **14** can be separated by an inner flexible barrier **24** into first and second distinct storage zones **60** and **61**. When used in the single storage section mode, storage bag **10** of the invention mimics the functionality of standard zip-locking plastic bags. However, the inclusion of inner flexible barrier **24** adds significantly more functionality, enabling various food items, which would normally need to be stored in two separate bags, to be located in separate compartments of storage bag **10**. For instance, bread and meat for a sandwich can be separated from lettuce, tomato, pickles and the like, with the overall sandwich being readily assembled upon removing all the items from the single storage bag without the fear of soaking the bread. Certainly, an abundance of separable items may be stored, even non-food items, such as game parts, different types of fasteners, and even toiletries for airplane travel.

With reference to FIGS. **5**A and **5**B, an alternative feature of the flexible storage bag of the present invention is shown at **110**. In the embodiment shown, first and second tabs **70** and **71** extend from respective top edge sections **16** and **20** of the first and second side wall portions **12** and **13** above upper closure assembly **26**. Preferably, first and second tabs **50** and **51** are at least partially offset from one another either horizontally, vertically, or both horizontally and vertically. With this configuration, a user can easily grasp the respective first and second tabs **70** and **71** in order to pull the first and second tabs **70** and **71** is opposite directions to unseal upper closure assembly **26**, as depicted in FIG. **5***b*. Although only two tabs are shown, it should be understood that additional tabs could be added to respective top edge sections **16** and **20**.

FIGS. **6**A and **6**B depict a further aspect of the present invention, wherein a flexible storage bag **210** includes a graphical image puzzle generally indicated at **80**. Graphical image puzzle **80** comprises a plurality of graphical image pieces or elements indicated at **82**, **83** and **84**. In the embodiment shown, the first graphical image piece **82** is disposed on the first side wall portion **12**, the second graphical image piece **83** is disposed on the flexible barrier **24**, and the third graphical image piece **84** is disposed on the second side wall portion **13**. Each graphical image piece **82**, **83**, **84** represents a portion of a completed graphical image indicated at **86** in FIG. **6**B. More specifically, when the graphical image pieces **82**, **83** and **84** are situated adjacent one another, as depicted in FIG. **6***b*, the graphical image pieces **82**, **83** and **84** combine to form the completed graphical image **86**, which is viewable by a user from outside of the flexible storage bag **210**. In the embodiment shown, graphical image pieces **82**, **83** and **84** combine to show a stylized mathematical formula 1+2=3. With this configuration, it should be understood that the first and second side wall portions **12**, **13** and the flexible barrier **24** are transparent, while the graphical image pieces **82**, **83** and **84** are at least partially opaque. It should also be understood that separating the graphical image pieces **82**, **83** and **84** obscures the completed graphical image **86**. For example, if a food item is placed within one of the first and second distinct storage zones **60** and **61** of flexible storage bag **210** between the graphical image piece **83** and one of the graphical image pieces **83** or **84**, then a viewer would be unable to see all of the combined graphical image pieces **82**, **83** and **84** such that the completed graphical image **86** would not be viewable or the view by a user would be obscured from outside of the flexible storage bag **210**. Although shown with three graphical image pieces **82**, **83** and **84**, it should be understood that different combinations of graphical image pieces could be utilized with the present invention. For example, if graphical image piece **83** were removed, then graphical image pieces **82** and **84** could be combined to form a completed graphical image.

FIG. **7** depicts another aspect of the present invention with the second side wall portion **13** shown pulled back to expose details of a lower closure assembly **90** within a flexible storage bag **310**. Preferably, flexible storage bag **310** includes an upper closure assembly **26** identical to the one described above with respect to FIG. **2**. Additionally, lower closure assembly **90** is provided below upper closure assembly **26** to selectively seal one of the storage zones **60** and **61** of flexible storage bag **310**. Preferably, lower closure assembly **90** is constituted by male and female connection elements **94** and **95** that selectively zip to seal one of the storage zones **60** and **61** of flexible storage bag **310**. More specifically, male element **94** is located on one of the first and second side wall portions **12**, **13** or on flexible barrier **24**, and female element **95** is located opposite male element **84** on another of the first and second side wall portions **12**, **13** or flexible barrier **24** such that male and female elements **94** and **95** can be selectively engaged to seal one of the first and second storage zones **60** and **61** in a manner directly corresponding to upper closure assembly **26**. Although not depicted, it should be understood that a second lower closure assembly could be provided identical in construction to the first lower closure assembly, such that the first lower closure assembly selectively seals first storage zone **60**, the second lower closure assembly selectively seals the second storage zone **61** and upper closure assembly **26** selectively seals opening **15**.

Although described with reference to preferred embodiments of the invention, it should be readily understood that various changes and/or modifications can be made to the invention without departing from the spirit thereof. For instance, although the inner flexible barrier **24** and first and second wall portions **12** and **13** are shown as separate plastic sheets, it should be understood that a single plastic sheet may be folded multiple times and welded together to form the first and second wall portions **12** and **13** and the inner flexible barrier **24**. Additionally, it should be clear that all of the various features and aspects discussed above can be combined in different combinations to form flexible storage bags with multiple features, such a graphical image puzzle **80** and upper and lower closure assemblies **26** and **90**. In general, the invention is only intended to be limited by the scope of the following claims.

I claim:

1. A flexible storage bag comprising:

first and second, outermost side wall portions each made from a single folded sheet of flexible material and including top, bottom and opposing side edge sections, wherein a fold of the sheet establishes the bottom and the opposing side edge sections of the first side wall portion are interconnected to the opposing side edge sections of the second side wall portion to establish an inner storage area having an opening;

a first closure assembly located externally on top edge sections of the first and second side wall portions and adapted to selectively open and close the opening of the flexible storage bag, wherein the first closure assembly includes a male element located on the top edge section of the first side wall portion, and a female element located on the top edge section of the second side wall portion which mates with the male element to seal the top edge sections of the first and second side wall portions together and wherein the first closure assembly further includes a zipper slidably connected to the top edge sections of the first and second side wall portions and engaging the male and female elements to selectively zip and unzip the flexible storage bag, the zipper including a loop connected thereto adapted to be engaged by a finger of a user to aid a user in sliding the zipper relative to the top edge sections of the flexible storage bag;

a flexible barrier, including top, bottom and opposing side edge portions, within the inner storage area, the flexible barrier extending at least substantially an entire width of the inner storage area with a top side edge portion of the flexible barrier being below a level of the top side edge sections of the first and second side wall portions such that the flexible barrier does not interfere with the function of the first closure assembly, and at least one of the bottom and opposing side edge portions of the flexible barrier is connected to at least one of the fold of the bottom and the respective opposing side edge sections of the first and second side wall portions such that the flexible barrier is retained within the inner storage area wherein the flexible barrier is configured to be selectively positioned within the inner storage area between a single storage mode and a dual storage mode, wherein when the flexible barrier is positioned directly adjacent the first side wall portion a single storage zone is defined between the flexible barrier and the second side wall portion in the single storage mode, and when the flexible barrier is positioned between the first and second side wall portions a first storage zone is defined between the flexible barrier and the first side wall portion and a second storage zone is defined between the flexible barrier and the second side wall portion in the dual storage mode; and

a graphical image puzzle including a first graphical image disposed on the first side wall portion and a second graphical image disposed on one of the second side wall portion and the flexible barrier wherein the first and second graphical images combine to form a completed graphical image that is viewable by a user from outside the flexible storage bag when the first graphical image is situated adjacent the second graphical image, and the completed graphical image is obscured when the first graphical image is not situated adjacent the second graphical image, such as when a food product is located between the first and second graphical images within the inner storage area and wherein the second graphical image is disposed on the flexible barrier and the graphical image puzzle further includes a third graphical image disposed on the second side wall portion such that the first, second and third graphical images combine to form the completed graphical image that is viewable by a user from outside the flexible storage bag when the first, second and third graphical images are adjacent one another, and the completed graphical image is obscured when the first, second and third graphical images are not situated adjacent one another, such as when a food product is located between at least one of the first, second and third graphical images within the inner storage area.

2. The flexible storage bag of claim **1**, further comprising:

a first tab extending from a top end of the first side wall portion; and

a second tab extending from a top end of the second side wall portion, wherein the first and second tabs are offset from one another such that the first and second tabs are positioned to be grasped by a user and pulled apart in opposite directions in order to unseal the top edge sections of the first and second side wall portions.

3. The flexible storage bag of claim **1**, wherein the bottom and opposing side edge portions of the flexible barrier are connected to the fold of the bottom and respective opposing side edge sections of each of the first and second side wall

portions and selectively divide the inner storage area into first and second separate and distinct storage zones.

4. The flexible storage bag of claim **3**, further comprising:

a second closure assembly positioned below the first closure assembly and within the flexible storage bag, with the second closure assembly being adapted to selectively seal one of the first and second storage zones.

5. The flexible storage bag of claim **4** wherein the second closure assembly is adapted to seal the first storage zone and said flexible storage bag further comprises:

a third closure assembly positioned below the first closure assembly within the flexible storage bag, said third closure assembly being adapted to seal the second storage zone.

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